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09/911,042	07/23/2001	Takumi Okaue	SONYJP 3.0-190	3744

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 December 2008*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 July 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☒ All   b)☐ Some * c)☐ None of:

   1.☒ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
      application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application
6)☐ Other: _____ .

Remarks

Claims 1-24 are pending.

Response to Arguments

1.   Applicant's arguments filed 12/18/2008 have been fully considered but they are not persuasive.

Applicant argues that neither Ueda nor Kamibayashi disclose "a virtual storage device *loaded in a data processing apparatus* and operable to execute mutual authentication" or "that mutual authentication is alternatively carried out *between a first structure disposed within a data processing apparatus and a virtual storage device loaded in the data processing apparatus* instead of being carried out between the data processing apparatus and an external storage device." However, Applicant provides no supporting arguments for such statement or any discussion as to why Applicant believes that neither Ueda or Kamibayashi disclose such features. A discussion follows with respect to what Applicant appears to believe with respect to this amendment, however.

Applicant refers to paragraphs 272, 274, and 296 of the specification as having basis for the amendments. Paragraphs 272 and 296 discuss memory cards that can be used in mutual authentication. However, these paragraphs do not discuss "a virtual storage device" or "a first structure", as claimed. Applicant appears to believe that the "virtual storage device" of the claims must be the "Memory Stick" discussed in paragraph 272, for example. However, the portions cited from the specification refer to a Memory Stick as being an example of a

virtual memory <u>card</u>. If Applicant wishes for the claims to be directed to a

Memory Stick or a memory card, then Applicant can amend the claims to refer to

a Memory Stick or a memory card as opposed to a "virtual storage device" and "a

first structure". Without such amendment, however, the claims are not so limited

in scope. A "virtual storage device" is, by its very nature, virtual, and not

physical. While Applicant may refer to an example of a <u>virtual memory card</u> as

being a Memory Stick, this is not binding on a virtual storage device. A virtual

storage device is broader than a virtual memory card, since a memory card is a

type of storage device. Briefly looking to the physical domain, a storage device

could be a CD, DVD, hard drive, memory card, smart card, EPROM, flash

memory, or many other storage devices, only one of which is a memory card. In

the virtual domain, one will see that a virtual storage device is a virtual

instantiation of, on, or within, any physical storage device. This means that a

"virtual storage device" can be the virtual instantiation of a physical storage

device (e.g. the virtual representation of a CD, as seen by a computer), a virtual

storage entity (such as a partition) of a physical storage device, or, indeed, any

piece of data. Therefore, taking virtual storage device in its true definition, one

will see that it is quite broad and can cover any data stored on any storage

device. Paragraph 96 further shows that a storage device may include "a

memory card utilizing a built-in type flash memory or a detachable flash memory,

a DVD, or a CD, or a MD (Mini Disc), for example." Therefore, a storage device

is defined in the instant application as being much broader than a Memory Stick

or memory card.

As is clearly seen in the cited portions of Ueda, there are multiple entities that are loaded and/or disposed in the device, such entities performing mutual authentication. These entities are, for example, the AV decoder card (e.g. numeral 507 in figure 14) and the optical disk drive (e.g. numeral 509 in figure 14). The AV decoder card and the optical disk drive perform mutual authentication for an optical disk that "does not include any structure operable to execute mutual authentication or is not operable to enable such mutual authentication or the memory of the external storage device is devoid of ciphering function", as claimed (see, for example, column 23, line 49 to column 24, line 17). The AV decoder card and optical disk drive clearly read on the virtual storage device loaded in the apparatus and the first structure disposed within the apparatus of the claims, as both are within the apparatus. Furthermore, the 2 entities are operable to execute mutual authentication since they perform mutual authentication with each other. Therefore, Ueda clearly and explicitly discloses "a virtual storage device *loaded in a data processing apparatus* and operable to execute mutual authentication" and "that mutual authentication is alternatively carried out *between a first structure disposed within a data processing apparatus and a virtual storage device loaded in the data processing apparatus* instead of being carried out between the data processing apparatus and an external storage device." It is finally noted that both the AV decoder card and optical disk drive may read on either the "virtual storage device" or the "first structure" of the claims, due to the broadness of the claim limitations.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described
> as set forth in section 102 of this title, if the differences between the subject matter sought to
> be patented and the prior art are such that the subject matter as a whole would have been
> obvious at the time the invention was made to a person having ordinary skill in the art to which
> said subject matter pertains. Patentability shall not be negatived by the manner in which the
> invention was made.

2.   Claims 1, 2, 8, 9, 12-14, 20, 21, and 24 are rejected under 35 U.S.C.

103(a) as being unpatentable over Ueda (U.S. Patent 6,289,102) in view of

Kamibayashi (U.S. Patent 7,065,648).

Regarding Claim 1,

Ueda discloses a data processing apparatus for receiving

data from or delivering data to a storage device, the storage device

being external to the data processing apparatus and including a

memory, the data received from the external storage device being

reproduced from the memory of the external storage device and the

data delivered t o the external storage device being recorded in the

memory of the external storage device, the receiving or delivering

ordinarily being carried out on condition that mutual authentication

between the data processing apparatus and the external storage

device is successful, the data processing apparatus comprising:

A virtual storage device loaded in the data processing

apparatus and operable to execute mutual authentication (Figures

14-16; Column 23, line 49 to Column 24, line 17; and Column 25,

lines 1-16);

A first structure disposed within the data processing

apparatus and operable to execute mutual authentication so that

when the external storage device does not include any structure

operable to execute the mutual authentication or is not operable to

enable such mutual authentication or the memory of the external

storage device is devoid of ciphering function, the mutual

authentication is alternatively carried out between the first structure

disposed within the data processing apparatus and the virtual

storage device loaded in the data processing apparatus instead of

being carried out between the data processing apparatus and the

external storage device (Figures 14-16; Column 21, lines 50-60;

Column 23, lines 26-61; and Column 37, lines 5-40); and

A second structure operable to receive the data from the

external storage device or to deliver the data to the external storage

device when the mutual authentication between the first structure

and the virtual storage device is successful (Figures 14-16; Column

23, line 49 to Column 24, line 17; and Column 25, lines 1-16);

But does not explicitly disclose performing mutual

authentication between the external storage device and the data

processing apparatus when the external storage device is operable

to perform mutual authentication (although this is not a claim

limitation, it is rejected here for clarity).

Kamibayashi, however, discloses determining if the external

storage device is operable to perform mutual authentication with

the data processing apparatus or not (Column 5, line 57 to Column

6, line 36; and Column 12, lines 38-39), performing mutual

authentication between the external storage device and the data

processing apparatus when the external storage device is operable

to perform mutual authentication (Column 8, line 22 to Column 9,

line 62), and alternatively executing mutual authentication for the

external storage device using a structure and/or device other than

the external storage device when the external storage device is not

operable to perform mutual authentication (Column 12, line 22 to

Column 13, line 16). It would have been obvious to one of ordinary

skill in the art at the time of applicant's invention to incorporate the

recording media of Kamibayashi into the recording and reproducing

system of Ueda in order to allow the system to use a plurality of

forms of media, including functional media as well as non-functional

media, thereby providing protection for content stored on a

multitude of functional and non-functional media.

Regarding Claim 8,

Claim 8 is a method claim that is broader than apparatus

claim 1 and is rejected for the same reasons.

Regarding Claim 12,

>   Claim 12 is a computer readable medium claim that is broader than apparatus claim 1 and is rejected for the same reasons.

Regarding Claim 13,

>   Claim 13 is an apparatus claim that is broader than apparatus claim 1 and is rejected for the same reasons.

Regarding Claim 20,

>   Claim 20 is a method claim that is broader than apparatus claim 1 and is rejected for the same reasons.

Regarding Claim 24,

>   Claim 24 is a computer readable medium claim that is broader than apparatus claim 1 and is rejected for the same reasons.

Regarding Claim 2,

>   Ueda as modified by Kamibayashi discloses the apparatus of claim 1, in addition, Kamibayashi discloses a structure operable to first execute the mutual authentication with the external storage device by initially checking whether the external storage device includes a structure operable to execute the mutual authentication (Figure 9; Column 5, line 57 to Column 6, line 36; and Column 12, lines 38-39).

Regarding Claim 9,

Claim 9 is a method claim that is broader than apparatus

claim 2 and is rejected for the same reasons.

Regarding Claim 14,

Claim 14 is an apparatus claim that is broader than

apparatus claim 2 and is rejected for the same reasons.

Regarding Claim 21,

Claim 21 is a method claim that is broader than apparatus

claim 2 and is rejected for the same reasons.

3.   Claims 3, 5-7, 10, 15, 17-19, and 22 are rejected under 35 U.S.C. 103(a)

as being unpatentable over Ueda in view of Kamibayashi, further in view of

Dondeti (U.S. Patent 6,240,188).

Regarding Claim 3,

Ueda as modified by Kamibayashi discloses the apparatus

of claim 1, in addition, Ueda discloses that the first structure and

the virtual storage device execute the mutual authentication

between the first structure and the virtual storage device by

applying a distributed key and another authenticating key

previously stored in the virtual storage device (Figures 14-16;

Column 23, line 26 to Column 24, line 17; and Column 37, line 5 to

Column 38, line 51);

But does not disclose a further key is provided for

authenticating distribution of an enabling key block, the further key

having been previously enciphered by the enabling key block, the

enabling key block containing enciphering data for enciphering

renewal keys which are located on various paths of a hierarchical

key tree structure, the hierarchical tree structure having a plurality

of keys associated with various roots of the tree structure, nodes of

the tree structure, and leaves of the tree structure, whereby a given

one of the plurality of paths of the key tree structure extends from a

specific one of the roots to a particular one of the leaves of the key

tree structure, the leaves of the tree structure being respectively

associated with a plurality of data processing apparatuses, the

enciphering data including upper-rank keys in the tree hierarchy

which are enciphered by lower-rank keys.

Dondeti, however, discloses that a further key is provided for

authenticating distribution of an enabling key block, the further key

having been previously enciphered by the enabling key block, the

enabling key block containing enciphering data for enciphering

renewal keys which are located on various paths of a hierarchical

key tree structure, the hierarchical tree structure having a plurality

of keys associated with various roots of the tree structure, nodes of

the tree structure, and leaves of the tree structure, whereby a given

one of the plurality of paths of the key tree structure extends from a

specific one of the roots to a particular one of the leaves of the key

tree structure, the leaves of the tree structure being respectively

associated with a plurality of data processing apparatuses, the

enciphering data including upper-rank keys in the tree hierarchy

which are enciphered by lower-rank keys (Column 3, line 48 to

Column 4, line 21). It would have been obvious to one of ordinary

skill in the art at the time of applicant's invention to incorporate the

hierarchical key tree structure of Dondeti into the recording and

reproducing system of Ueda as modified by Kamibayashi in order

to make the system scalable to allow for the addition and

modification of many processing apparatuses.

Regarding Claim 10,

Claim 10 is a method claim that is broader than apparatus

claim 3 and is rejected for the same reasons.

Regarding Claim 15,

Claim 15 is an apparatus claim that is broader than

apparatus claim 3 and is rejected for the same reasons.

Regarding Claim 22,

Claim 22 is a method claim that is broader than apparatus

claim 3 and is rejected for the same reasons.

Regarding Claim 5,

Ueda as modified by Kamibayashi and Dondeti discloses the

apparatus of claim 3, in addition, Dondeti discloses means for

subjecting the enabling key block distribution authenticating key to

a version controlling process by executing a process for renewing

individual versions (Column 1, lines 30-46; and Column 3, line 48 to

Column 4, line 21).

Regarding Claim 17,

Claim 17 is an apparatus claim that is broader than

apparatus claim 5 and is rejected for the same reasons.

Regarding Claim 6,

Ueda as modified by Kamibayashi does not disclose that a

key tree structure is provided comprising a plurality of keys

associated with various roots of the tree structure, nodes of the tree

structure, and leaves of the tree structure, and having a plurality of

paths whereby a given one of the paths extends from a specific one

of the roots to a particular one of the leaves of the key tree

structure, a plurality of data processing apparatuses being

respectively associated with the leaves of the tree, and the data

processing apparatus further comprises: means for enciphering

leaf-keys associated with the leaves using a storage key that is

proper to an individual one of the data processing apparatuses and

then storing the enciphered leaf-key in a memory means within a

corresponding data processing apparatus.

Dondeti, however, discloses that a key tree structure is

provided comprising a plurality of keys associated with various

roots of the tree structure, nodes of the tree structure, and leaves of

the tree structure, and having a plurality of paths whereby a given

one of the paths extends from a specific one of the roots to a

particular one of the leaves of the key tree structure, a plurality of

data processing apparatuses being respectively associated with the

leaves of the tree (Column 3, line 48 to Column 4, line 21), and the

data processing apparatus further comprises: means for

enciphering leaf-keys associated with the leaves using a storage

key that is proper to an individual one of the data processing

apparatuses and then storing the enciphered leaf-key in a memory

means within a corresponding data processing apparatus (Column

3, line 48 to Column 4, line 21).   It would have been obvious to one

of ordinary skill in the art at the time of applicant's invention to

incorporate the hierarchical key tree structure of Dondeti into the

recording and reproducing system of Ueda as modified by

Kamibayashi in order to make the system scalable to allow for the

addition and modification of many processing apparatuses.

Regarding Claim 18,

Claim 18 is an apparatus claim that is broader than

apparatus claim 6 and is rejected for the same reasons.

Regarding Claim 7,

Ueda as modified by Kamibayashi does not disclose that a

key tree structure is provided comprising a plurality of keys

respectively associated with various roots of the tree structure,

nodes of the tree structure, and leaves of the tree structure, and

having a plurality of paths that extend from the roots to the leaves

of the key tree structure, a plurality of data processing apparatuses

respectively corresponding to the leaves of the tree and to leaf-keys

that further correspond with the leaves; and a device key block is

stored in a memory within the processing apparatus, the key block

being an assemblage of ciphered keys comprising mutually

different individually enciphered node keys of plural steps extending

from the leaves of the tree structure up to upper-rank keys of the

tree structure.

Dondeti, however, discloses that a key tree structure is

provided comprising a plurality of keys respectively associated with

various roots of the tree structure, nodes of the tree structure, and

leaves of the tree structure, and having a plurality of paths that

extend from the roots to the leaves of the key tree structure, a

plurality of data processing apparatuses respectively corresponding

to the leaves of the tree and to leaf-keys that further correspond

with the leaves (Column 3, line 48 to Column 4, line 21); and a

device key block is stored in a memory within the processing

apparatus, the key block being an assemblage of ciphered keys

comprising mutually different individually enciphered node keys of

plural steps extending from the leaves of the tree structure up to

upper-rank keys of the tree structure (Column 3, line 48 to Column

4, line 21). It would have been obvious to one of ordinary skill in

the art at the time of applicant's invention to incorporate the

hierarchical key tree structure of Dondeti into the recording and

reproducing system of Ueda as modified by Kamibayashi in order

to make the system scalable to allow for the addition and

modification of many processing apparatuses.

Regarding Claim 19,

Claim 19 is an apparatus claim that is broader than

apparatus claim 7 and is rejected for the same reasons.

4.   Claims 4, 11, 16, and 23 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Ueda in view of Kamibayashi and Dondeti, further in view of

Harada (U.S. Patent 6,850,914).

Regarding Claim 4,

Ueda as modified by Kamibayashi and Dondeti discloses the

apparatus of claim 3, in addition, Dondeti discloses that only a

proper data processing apparatus is enabled to decode the

enabling key block, whereas an improper apparatus is unable to

decode the enabling key block (Column 3, line 48 to Column 4, line

21); but does not disclose the use of licensing the determine which

data processing apparatuses are proper and which are not, or

revoking improper data processing apparatuses.

Harada, however, discloses the use of licenses to determine

which data processing apparatuses are proper and which are not

and revoking an improper data processing apparatus (Column 5,

lines 15-67). It would have been obvious to one of ordinary skill in

the art at the time of applicant's invention to incorporate the

licensing and revocation system of Harada into the recording and

reproducing system of Ueda as modified by Kamibayashi and

Dondeti in order to provide for dynamic revocation of data

processing apparatuses, such that revocation lists can be updated

in a timely and efficient manner, thus allowing all proper

apparatuses to know which other apparatuses are proper and

which are revoked.

Regarding Claim 11,

> Claim 11 is a system claim that is broader than apparatus
> claim 4 and is rejected for the same reasons.

Regarding Claim 16,

> Claim 16 is an apparatus claim that is broader than
> apparatus claim 4 and is rejected for the same reasons.

Regarding Claim 23,

> Claim 23 is a system claim that is broader than apparatus
> claim 4 and is rejected for the same reasons.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of

time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire

THREE MONTHS from the mailing date of this action. In the event a first reply is

filed within TWO MONTHS of the mailing date of this final action and the advisory

action is not mailed until after the end of the THREE-MONTH shortened statutory

period, then the shortened statutory period will expire on the date the advisory

action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

calculated from the mailing date of the advisory action. In no event, however, will

the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

Any inquiry concerning this communication or earlier communications from

the examiner should be directed to JEFFREY D. POPHAM whose telephone

number is (571)272-7215. The examiner can normally be reached on M-F 9:00-

5:30.

If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, Emmanuel Moise can be reached on (571)272-3865. The

fax phone number for the organization where this application or proceeding is

assigned is 571-273-8300.

Information regarding the status of an application may be obtained from

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system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-

free). If you would like assistance from a USPTO Customer Service

Representative or access to the automated information system, call 800-786-

9199 (IN USA OR CANADA) or 571-272-1000.

                                                            Jeffrey D Popham
                                                            Examiner
                                                            Art Unit 2437

/Jeffrey D Popham/
Examiner, Art Unit 2437

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Supervisory Patent Examiner, Art Unit 2437